FACT SHEET

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

NPDES Permit Number: WA 000085-0

FACT SHEET -- APPLICATION FOR RENEWAL OF NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE POLLUTANTS TO STATE WATERS PURSUANT TO THE PROVISIONS OF CHAPTER 90.48 REVISED CODE OF WASHINGTON AND THE FEDERAL WATER POLLUTION CONTROL ACT AS AMENDED.

Applicant: Simpson Tacoma Kraft Company
P.O. Box 2133
Tacoma, Washington 98401

The Department of Ecology (Ecology) is proposing to reissue a permit to discharge to the above listed applicant, subject to certain effluent limitations, which require treatment facilities, schedules of compliance, and other conditions necessary to carry out the provisions of state and federal law.

PUBLIC COMMENT AND INFORMATION

There will be a 30 day public comment period as required by 40 CFR 124.10. Interested persons may submit written comments regarding the proposed permit. All comments should be submitted by August 12, 2001, if they are to be considered in the formulation of final determinations regarding this application. Comments should be sent to:

J. Mark Dirkx
Washington State Department of Ecology
Industrial Section
P.O. Box 47600
Olympia, Washington 98504-7600
Phone: 360-407-6954

The application, proposed permit, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 4:30 p.m. weekdays at the aforementioned Ecology location. In addition, a copy of the proposed permit, Public Notice and Fact Sheet are also available for inspection at the Tacoma Public Library, 1102 Tacoma Avenue South.

GENERAL INFORMATION

Location: The mill is located at 801 Portland avenue in Tacoma, Washington. It is situated on a

peninsula bordered by the mouth of the Puyallup river on the northeast, Inner Commencement Bay on the northwest, and the St. Paul Waterway on the southwest.

Activity: The mill produces about 1300 air dry tons/day of bleached and unbleached pulp and paper products from virgin fiber and the recycling of old corrugated cardboard (OCC).

Receiving Waters: Inner Commencement Bay; Class B water quality.

Discharge Location: The treated mill wastewater is discharged via a 54" diameter, 920 foot long outfall pipe with a high rate diffuser (Outfall 001). The diffuser section is 180 feet long, and is located at an average depth of 58 feet (MLLW).

Discharge Description: Prior to its discharge via Outfall 001, mill wastewater receives primary treatment in a clarifier, followed by secondary treatment in an oxygen-activated sludge reactor. All on-site stormwater is captured and sewered to the treatment system. The discharge is continuous and averages between 28 and 34 million gallons per day. Major conventional pollutants are 5-day biochemical oxygen (BOD_5) and suspended solids (TSS).

Permit Conditions: All known, available, and reasonable methods to control toxicants in the applicant's wastewater shall be used. Conventional pollutant limitations in this permit are based on Best Conventional Pollutant Control Technology (BCT) effluent limitations or federal new source performance standards (NSPS). Toxic pollutant limitations are based on Best Available Technology (BAT). All Known, Available, and Reasonable Methods of Treatment (AKART) have been applied to both conventional and toxic pollutant limitation requirements. Ecology has adopted EPA's BCT and BAT economic tests for AKART analysis. Regarding chlorinated organics, Ecology has interpreted AKART as equivalent to BAT. As a consequence the AKART requirement is considered met by full implementation of the federal Cluster Rule requirements for chlorinated organics. No discharge of toxicants will be allowed that would violate water quality standards, including toxicant standards, sediment criteria, and dilution zone criteria, as referenced in RCW 90.48.520.

If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant, and that standard or prohibition is more stringent than any limitation upon such pollutant in the permit, the Department shall institute proceedings to modify or revoke and reissue the permit to conform to the more stringent effluent standard or prohibition.

Compliance Record: Simpson has exceeded their permit limits on the following occasions:

a. In August of 1996 the mill experienced a black liquor spill which caused exceedances (35,000 lbs TSS and 31,100 lbs BOD) of permit limitations. Order 96-WQI077 was issued in October 1996 in response to the spill. Simpson was required to prepare and implement a Best Management Practices (BMP) program for the minimization of spills of spent pulping liquor.
b. In December of 1996 the daily maximum BOD limitation was exceeded (17,400 lbs)

due to a release of black liquor into the treatment system coupled with a low fluid level in the Unox Reactor. The mill responded to the incident by modifying the Unox weir in February 1997. Ecology took no formal enforcement action because the exceedance was only 200 lbs over the permitted limit and because there were mitigating circumstances involved which were considered beyond the mill's control.

c. In August 1997 the effluent transfer line from the primary clarifier to the secondary clarifier broke releasing roughly one million gallons of primary treated effluent to the Sound. Simpson shut down mill operations immediately and undertook repair of the line. Bioassay testing did not reveal any negative impact to the receiving water. Ecology did not take any formal enforcement in response to the incident because it was considered an "act of God" type of accident. Simpson had brought an independent inspector in just prior to the pipe failure to evaluate the pipe. The inspector found no problems.
d. In November 1997 the mill exceeded the daily maximum limitation for BOD and TSS with values of 18,200 lbs and 76,400 lbs respectively. The exceedances were attributed to the emergence of a filamentous bacteria in the treatment system biota which is characteristically difficult to settle out. The type of bacteria causing the problem is referred to as Thiothrix II and is often associated with OCC operations. OCC operations introduce food sources such as organic acids which favor Thiothrix II. At this same time Simpson was bleaching at 100% substitution rates which reduced the trace amounts of chlorine which discourage bacterial growth. Ecology has not taken any formal enforcement response to this incident because it does not believe, based on the factors contributing to the exceedance, that a formal enforcement response is warranted.
e. In August of 1998 the mill exceeded the daily maximum limitation for TSS twice. On August 12th the daily maximum TSS was 40800 lbs. On August 19th the daily maximum TSS was 35300 lbs. Both exceedances were attributed to Thiothrix II. Simpson modified the south secondary clarifier draft tube system to allow a greater recycle rate of biomass. The ability to better manage the recycle rate allowed the mill greater control over the F/M ratio. Thiothrix II prefers a high F/M ratio. Ecology did not take formal enforcement in response to these exceedances because the mill took the initiative in implementing potential corrective action.
f. In December of 1999 the mill exceeded the daily maximum limitation for TSS. On December 23th the daily maximum TSS was 43300 lbs. The exceedance was attributed to an emergence of filamentous bacteria (Thiothrix II). Ecology did not take formal enforcement. Simpson has upgraded the recycle system in both secondary clarifiers and enhanced the performance of the oxygen transfer system. In addition an independent consultant has been retained to offer advice to Simpson on how best to control the filamentous bacteria.

Many types of bacteria are always present in the treatment system biota. Thiothrix bacteria often appear with OCC operations due to the change if effluent characteristics. There are also different types of filamentous bacteria which are difficult to settle out in the clarifiers. In several of the incidents resulting in a Thiothrix II caused TSS excursion the initial problem was the emergence of

a type of filamentous bacteria which prefers a low F/M ratio. Shifting the F/M ratio from low to high appears to have then favored the emergence of Thiothix II which resulted in the TSS limit exceedance. The presence of both types of filamentous bacteria means that the mill has to be very diligent in managing the treatment system to keep both types of bacteria under control. Ecology has no indication that Simpson has not been responsive to this problem which has emerged primarily since the advent of the OCC operation. Ecology also has no indication of an adverse impact to the environment as a result of the TSS exceedances caused by the discharge of filamentous bacteria.

TECHNICAL INFORMATION

Discharge Description:

A characterization of the discharge, evaluated over 1998 through 1999, is presented below. The characterization of the effluent has not noticeably changed since this time. The current permitted allowances are presented in parenthesis.

Parameter	Biennial Average	High/Low Range
Flow (million gallons per day)	27 (NA)	30.5/18
pH	- (6.4)	7.3/5.8
Biochemical Oxygen Demand (lb/day)	2,803 (8,850)	3,690/2,301
	6,234 (17,200)	10,800/3,320
Total Suspended Solids (lb/day)	7.031 (17,200)	10,300/5,320
	17,458(33,600)	76,400/9,520
Temp (degrees F)	95(NA)	93/83

Receiving Water Quality Standards:

The applicable receiving water quality standards are those adopted by the Washington State Department of Ecology and approved by the EPA Regional Administrator pursuant to Section 303 of the Federal Water Pollution Control Act Amendments and WAC 173-201-080(19). Inner Commencement Bay is a Class B water body. Characteristic water uses include fishery and wildlife habitat, general recreation and aesthetic enjoyment, and navigation. Compliance with the permit conditions should not result in degradation of water quality or impair any beneficial uses.

The primary water quality standard parameters that could be affected by the discharge, and the required standard, are as follows:

1). Dissolved oxygen shall exceed 90% of saturation.
2). No measurable temperature increase (0.3 degrees C) in the receiving water will be permitted.
3). Toxic material concentrations shall be below those which may adversely affect characteristic water uses, cause acute or chronic conditions to the aquatic biota, or adversely affect public health.
4). Aesthetic values shall not be impaired by the presence of materials or their effects which offend

the senses of sight, smell, touch or taste.

Human health based criteria were promulgated for the state by EPA in its' National Toxics Rule (Fed. Reg., V. 57, No. 246, Tuesday, December 22, 1992). Human health criteria have been established for a subset of the chemicals referred to as priority pollutants. Permittees must submit priority pollutant analysis results as part of a permit renewal application. The Department has evaluated whether the Permittee's effluent has a reasonable potential to violate the human health criteria. Based upon review of the priority pollutant analysis results, the Department believes there is not a reasonable potential to violate the human health criteria. Therefore, the Department is not proposing effluent limits or monitoring for human health criteria during this permit cycle. Evaluation of compliance with human health criteria will be an ongoing activity and the Department's current position may change in the future depending on effluent characteristics. The Department is requiring that the Permittee conduct annual priority pollutant scans to increase the confidence on the database on which human health criteria compliance determinations are made.

In 1992 the USEPA adopted risk-based arsenic criteria for the protection of human health for the State of Washington. The criterion for marine waters is 0.14 μg/L inorganic arsenic, and is based on exposure from fish and shellfish tissue ingestion. The freshwater criterion is 0.018 μg/L, and is based on exposure from fish and shellfish tissue and water ingestion. These criteria have caused confusion in implementation because they differ from the drinking water maximum contaminant level (MCL) of 50 μg/L, which is not risk-based, and because the human health criteria are sometimes exceeded by natural background concentrations of arsenic in surface water and ground water.

In Washington, when a natural background concentration exceeds the criterion, the natural background concentration becomes the criterion, and no dilution zone is allowed. This could result in a situation where natural groundwater or surface water used as a municipal or industrial source-water would need additional treatment to meet numeric effluent limits even though no arsenic was added as waste. Although this is not the case for all dischargers, we do not have data at this time to quantify the extent of the problem.

A regulatory mechanism to deal with the issues associated with natural background concentrations of arsenic in groundwater-derived drinking waters is currently lacking. Consequently, the Water Quality Program, at this time, has decided to use a three-pronged strategy to address the issues associated with the arsenic criteria. The three strategy elements are:

1. Pursue, at the national level, a solution to the regulatory issue of groundwater sources with high arsenic concentrations causing municipal treatment plant effluent to exceed criteria. The upcoming revision of the MCL for arsenic offers a national opportunity to discuss how drinking water sources can affect NPDES wastewater dischargers. This discussion should focus on developing a national policy for arsenic regulation that acknowledges the risks and costs associated with management of the public exposure to natural background concentrations

of arsenic through water sources.

2. Additional and more focussed data collection. The Water Quality Program will in some cases require additional and more focussed arsenic data collection, will encourage or require dischargers to test for source water arsenic concentrations, and will pursue development of a proposal to have Ecology's Environmental Assessment Program conduct drinking water source monitoring as well as some additional ambient monitoring data. At this time, Washington NPDES permits will contain numeric effluent limits for arsenic based only on treatment technology and aquatic life protection as appropriate.

3. Data sharing. Ecology will share data with USEPA as they work to develop new risk-based criteria for arsenic and as they develop a strategy to regulate arsenic.

Basis for Limitations: The Permit is organized into sections identified by alphanumerical headings which run S1 through S10 for mill specific conditions and G1 through G8 for generic conditions present in all state issued NPDES permits. The basis for limitations identifies the federal or state regulations or law which establishes the authority for the permit requirements. The major sections of Permit WA 000085-0 and the basis for limitations for each major section are identified below. Further explanation of condition S1 follows.

MAJOR PERMIT SECTIONS AND BASIS FOR LIMITATIONS.

Section	Basis for limitation
S1. Effluent Limitations	Clean Water Act (CWA), 40 CFR 122, RCW 90.48, Chapters 173-200, 201A, 204, 205 and 220 WAC.
S2. Monitoring and Reporting	CWA, 40 CFR 122, 40 CFR 136, RCW 90.48, RCW 90.56, Chapters 173-50, and 220 WAC.
S3. Solid Waste Disposal	CWA, 40 CFR 122, RCW 90.48.080 and 520, RCW 70.95, Chapter 173-216 WAC.
S4. Outfall Evaluation	CWA, Chapter 173-220 WAC.
S5. Treatment System Operating Plan	40 CFR 122, Chapter 173-240 WAC.
S6. Filter Plant Backwash	RCW 90.48
S7. Spill Plan	40 CFR 122, RCW 90.48, Chapters 173-181, 180D, and 220 WAC.
S8. Slime Control Reporting	RCW 90.48.

S10. Spent Pilping Liquor BMP 40 CFR 430.03 and Order DE 96WQ-I077

G1 through G17 CWA, 40 CFR 122, RCW 90.48, Chapters 173-201A, 220, and 240.

Further explanation of S1: The permit currently proposed relies on production averages for 1999 in deriving production based effluent limitations. The existing, and currently enforced, permit expired June 25, 1996. At that time Ecology made the decision to wait on renewing the permit until the anticipated federal Cluster Rule requirements were finalized. The Cluster Rule mandated major changes to affected facilities and significant changes to the respective NPDES permits. To have renewed the permit before finalization of the Cluster Rule would have required reopening the permit for a major modification. The recent production values used on deriving effluent limits are presented in Table 1. The proposed effluent limitations based on 1999 production are presented in Table 2. During 1999 the Simpson mill produced monthly averages of 536 tons off the machine air dried tons (ADT @ 10% H2O) of unbleached pulp and paper (previous category A – Cluster Rule category C for Unbleached Kraft), 0 ADT of market bleached pulp (previous category G – Cluster Rule category B for Bleached Papergrade Kraft), 442 ADT of pulp from OCC (previousl category E – Cluster Rule category J for Secondary Fiber Non-Deink), and 334 tons measured at off the machine moisture of board-course-tissue pulp (category H). The pertinent regulatory basis to establish numeric effluent limitations for these mill processes are found in 40 CFR 430.10-17 (unbleached kraft subcategory A), 40 CFR 430.70-77 (market bleached kraft subcategory G), 40 CFR 430.50-57 (paperboard from wastepaper subcategory E), 40 CFR 430.50-57, and 40 CFR 430.80-87 (board coarse tissue subcategory H) of the Code of Federal Regulations.

TABLE 1. BASIS FOR PROPOSED EFFLUENT LMITATIONS (based on production history form July 1999 to June 2000).

			BOD Pounds/Ton		TSS Pounds/Ton	
Category	Avg Prod (Tons/day)	Basis	Mo Avg	Max/day	Mo Avg	Max/day
UB PP (C)	535.5	BPT/BCT	5.6	11.2	12	24
Paperboard (J)	442.25	NSPS	4.2	7.8	4.6	8.8
From Wastepaper	0	BCT	5.6	11.4	9.2	18.4
MKT BL Pulp (B)	0	BPT/BCT	16.1	30.9	32.8	60.8
	0	NSPS	11	20.6	19	36.4
BCT Bl Kraft (B)	115	BPT/BCT	14.2	27.3	25.8	48
	218.75	NSPS	9.2	17	15.2	29.2
		Allowance	8502	16305	14752	28651

TABLE 2. PROPOSED EFFLUENT LIMITS. Previous permit term BOD and TSS allowances are provided in parenthesis.

Parameter	Monthly Average	Daily Maximum	MONITORING REQUIREMENTS Frequency	Sample Type
Biochemical Oxygen Demand (5-day), lbs/day	8,502 (8,850)	16,305 (17,200)	7/week	24-hr Composite
Total Suspended Solids, lbs/day	14,752 (17,200)	28,651 (33,600)	7/week	24-hr Composite
pH	5.4 to 9.0		Continuous	Recording
Temperature	-	-	Continuous	Recording
Flow (MGD)	-	-	Continuous	Recording
Production, Tons/day	-	-	Daily	Recording

Wastewater Treatment Solids:

The mill generates woodwaste pulp and paper mill sludge. Simpson currently burns this sludge in the #7 Power Boiler. The resulting ash consists of bottom ash and fly ash. The bottom ash is then landfilled in Simpson Timber company's landfill in Mason County. The fly ash is landfilled in Rabanco's Roosevelt Landfill.

Results of Completed Monitoring Requirements:

The mill was required to complete several major studies during the 1990-1995 permit cycle. The emphasis of the studies was on evaluating the impact of the mill's effluent on receiving waters and on determining the degree of dilution at the point of discharge under worst case conditions. The results of the major studies are summarized below and cite the expired permit condition reference:

1. Condition S1.I required monitoring and established limits for various parameters. Soluble copper was one of these parameters. A daily maximum limit of 71ug/l was initially imposed for soluable copper based on computer modeling done in 1990 indicating the potential for violation of the marine water quality criteria. Weekly samples taken resulted in no single sample above 10 ug/l and most were below the detection level of 5 ug/l. Because the historical data appears to be stable and below levels of concern regarding water quality, the requirement to monitor for copper is not

being carried forward into the next permit cycle. The elimination of the copper monitoring requirement and limit is not backsliding per 40 CFR Part 60.122.44(l) because 40 CFR Part 60.122.44(l)(2)(i)(B)(1) allows limit revisions based on knowledge not available at the time of the origination of the limit. In this case the knowledge is the historical monitoring results that show the copper concentrations to be consistently below those levels which potentially could exceed the marine water quality criteria.

2. Condition S1.II required quarterly salmonid bioassays and required 80% survival in a minimum of 65% concentration of treated effluent for a 96-hour period. Results of these bioassays are summarized within the description of the Whole Effluent Toxicity (WET) section of this fact sheet. This condition, as a stand-alone condition, is being discontinued because bioassay testing is covered by the WET requirement.

3. Condition S1.III paraphrases WAC 173-201A-030 which establishes temperature criteria. Any Permittee would be bound by the applicable requirement regardless of whether it is or is not in a permit. This condition is being removed from the permit so that the permit contains only requirements unique to the Permittee or required to be present in a permit. There is also a risk in paraphrasing an underlying applicable requirement of not retaining the original meaning.

4. Condition S1.V required the implementation of control measures and the evaluation of these control measures in reducing the concentration of chlorinated organics in mill effluent and solid waste. The most meaningful indication of the current status of mill efforts are the historical sampling results for chlorinated organics in mill effluent. The final effluent has not had a detectable presence (detection limit in the low picograms/liter) of TCDF of TCDD since 1991. Since 1996 the bleach plant effluent, which is the major source of the chlorinated organics in the final effluent, experienced one detectable presence of TCDF at a concentration of 7.5 picograms/liter. Because the Cluster Rule imposes chlorinated organic limitations more restrictive than those currently in the permit Ecology is proposing to replace the current chlorinated organic limitations with those imposed by the Cluster Rule. The Cluster Rule requirements also become enforceable upon issuance of the renewed permit. The current daily maximum mass loading limit for TCDD in the final discharge effluent will be replaced by the concentration based limit mandated by the Cluster Rule. However, the proposed permit contains continued monitoring requirements for TCDD and TCDF in the final effluent and in the wastewater sludge. The point of compliance for the concentration-based limit is the acid bleach plant discharge. The historical acid plant discharge flow rate is 1.75 mgd. The Cluster Rule concentration limit is < 10 picograms/L. This translates into a mass discharge rate from the acid bleach plant of 0.07 mg/day which is far less than the final effluent mass limitation of 0.22 mg/day.. The Cluster Rule will impose a daily maximum AOX limitation of 0.951 kg/kkg of bleached pulp and a monthly average limitation of 0.632 kg/kkg of bleached pulp..

5. Condition S1.V.E also required a study of the bioaccumulative impact of the chlorinated organics in Simpson's effluent. Fulfillment of this requirement could also be attained by demonstration that existing bioaccumulation data adequately characterized the bioaccumulation of dioxins in Commencement Bay. Ecology considered Simpson to have fulfilled Condition S1.V.E

upon review of data submitted by Simpson in June 1994 indicating that:

a. Fish tissue data collected by EPA in Commencement Bay near the Tacoma Mill and across the bay in Hylebos Waterway which indicated no difference attributable to Simpson.
b. The levels of 2,3,7,8-TCDD and 2,3,7,8-TCDF since 1991 in mill effluent have been below detection limits.
c. Sampling data generated by Simpson indicating that effluent concentrations below a detection limit of 10 ppq resulted in fish tissue bioaccumulation that was also below detection limits.

6. Condition S1.VIII required the mill to sample annually for select chemicals which were identified or tentatively identified as problem chemicals in the St. Paul Waterway by the Superfund Remedial Investigation and Feasibility Study for the Commencement Bay Nearshore/Tideflats Superfund site. The results of the sampling are presented below:

Chemical (Final effluent results are given in ppb followed by respective year of sampling)

4-methylphenol <10 97, ND 96, ND 95, <10 94, <10 93
Phenol, 2-methoxyphenol <10 97, ND 96, ND 95, <10 94, <10 93
1-methyl-2-(1-mehtylethyl)-benzene <10 97, ND 96, ND 95, 0.4J 94, ND 93
(Napthalene, biphenyl, nickel <10 97, ND 96, ND 95, <10 94, <10 93
Retene, isopimaric acid) <10 97, <10 96, ND 95, 450 94, ND 93 except 180 ppb for Isopimaric Acid

Ecology is not continuing the monitoring requirement for these chemicals in the next permit cycle. The data to date suggests that the extent to which the above constituents are present is stable and does not pose a threat to water quality or human health.

7. Condition S1.X required the mill to sample influent and effluent for various parameters. The purpose of the sampling was to characterize the waste streams in case of potential bypasses or spills, to track the fate of contaminants within the treatment system, and to determine the efficiency of the treatment system. The results of the sampling were submitted to Ecology in 1993. Many parameters were analyzed. A summary of the more important parameters is presented below. This requirement is not being carried forward into the next permit term as the information generated achieved the objective of the requirement.

Parameter	Primary Clarifier Influent (mg/L)	Final Effluent (mg/L)	Efficiency
pH	3.2	6.3	
BOD_5	330	8	97.5%
Cyanide, total	ND	ND	
Formaldehyde	0.8	0.5	
TSS	410	87	79%
AOX	1.7	2.5	
Metals (ppb TR)	All ND except Chromium (10), Copper (13),Lead (9), Zinc (68)	All ND except zinc (10)	
Chloroform (ppb)	15	20	

8. Whole Effluent Toxicity

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

Acute toxicity tests measure mortality as the significant response to the toxicity of the effluent. Dischargers who monitor their wastewater with acute toxicity tests are providing an indication of the potential lethal effect of the effluent to organisms in the receiving environment.

Chronic toxicity tests measure various sublethal toxic responses such as retarded growth or reduced reproduction. Chronic toxicity tests often involve either a complete life cycle test of an organism with an extremely short life cycle or a partial life cycle test on a critical stage of one of a test organism's life cycles. Organism survival is also measured in some chronic toxicity tests.

Accredited WET testing laboratories have the proper WET testing protocols, data requirements, and reporting format. Accredited laboratories are knowledgeable about WET testing and capable of calculating an NOEC, LC_{50}, EC_{50}, IC_{25}, etc. All accredited labs have been provided the most recent version of the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* which is referenced in the permit. Any Permittee interested in receiving a copy of this publication may call the Ecology Publications Distribution Center 360-407-7472 for a copy. Ecology recommends that Permittees send a copy of the acute or chronic toxicity sections(s) of their permits to their laboratory of choice.

The WET tests during effluent characterization indicate that no reasonable potential exists to cause receiving water acute or chronic toxicity. As a result, the Permittee will not be given acute or chronic WET limit and will only be required to retest the effluent prior to application for permit renewal in order to demonstrate that toxicity has not increased in the effluent. A summary of the results of WET testing to date is presented in Appendix A of this Fact Sheet.

If the Permittee makes process or material changes which, in the Department's opinion, results in an increased potential for effluent toxicity, then the Department may require additional effluent

characterization in a regulatory order, by permit modification, or in the permit renewal. Toxicity is assumed to have increased if WET testing conducted for submission with a permit application fails to meet the performance standards in WAC 173-205-020, "whole effluent toxicity performance standard". The Permittee may demonstrate to the Department that changes have not increased effluent toxicity by performing additional WET testing after the time the process or material changes have been made.

ADDITIONAL PERMIT ELEMENTS

SEDIMENT STUDY.

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).
The Department has determined that this discharge has the potential to cause a violation of the sediment quality standards based on a screening-level evaluation of the discharge(s) which shows the potential to cause sediment contamination. A condition has been placed in the proposed permit which requires the Permittee to sample and analyze the sediment quality in the vicinity of the discharge.

Dilution Ratio Study/Dilution Zone Definition.

A worst case scenario was employed in deriving the dilution ratios. The objective was to be conservative and maximize the apparent effect of the mill's effluent on the receiving water. The mill's maximum monthly average effluent flow volume was used for modeling purposes. The Plumes 3rd edition model was used to derive an acute dilution ratio of 26. The output of the initial dilution modeling was then used in the Farfield model to derive a chronic dilution ratio at the mixing zone boundary of 86. Simpson's outfall consists of a 180 foot diffuser sitting in 57 feet of water. The chronic mixing zone boundary as defined by WAC 173-201A-100(7)(b)(i) runs for 257 feet in all directions from the diffuser. The acute mixing zone boundary as defined by WAC 173-201A-100(8)(b)(i) runs for 26 feet in all directions from the diffuser.

Stormwater Study.

Permittee's which do not collect and route all stormwater through a treatment system are required to conduct a stormwater characterization study. Simpson is not required to do this because all site generated stormwater is collected and routed through the wastewater treatment system.

Future Requirements:

The mill will be required to complete the following studies during the next permit cycle to further characterize discharge effluent and evaluate impact to receiving water:

Permit Condition S1.B.3. Cluster Rule Implementation. The mill will be required to monitor primarily bleach plant effluent for a host of chlorinated organics. Effluent limitations will be

established for these substances. The state initiative implemented in the previous permit terms to monitor effluent for AOX, dioxin, and furan will be replaced by the federal requirements which are more encompassing and restrictive.

Permit Condition S1.C. Whole Effluent Toxicity Monitoring. WET testing during the last permit cycle indicated no reasonable potential to cause receiving water acute or chronic toxicity. For this reason no WET limits are proposed for this next permit cycle. Instead, the mill will be required to tetest the effluent prior to application for permit renewal. Retesting will consist of monitoring once in the summer and once in the winter prior to submittal of the next permit renewal application. WET limits or further monitoring in susequent permit terms will be based on these retesting results.

Permit Condition S1.E. Effluent Priority Pollutant Scan. The Permittee will be required to analyze final effluent for the presence of priority pollutants on an annual basis during the duration of the next permit cycle. The results of the effluent analysis will be submitted with the next permit renewal application. This approach is designed to increase the size of the available database on which a subset of the human health criteria and water quality criteria compliance evaluations are made. Historically there has been a long time interval between priority pollutant scans of mill effluent. Requiring annual analysis during this permit term is designed to result in a database where variability due to possible process changes or changes in instrumentation technology is minimized.

Permit Condition S4. Outfall Evaluation. Changes to the outfall could change the dilution characteristics. Damage has occurred to outfalls in general such that Ecology is requiring an evaluation of the Permittee's outfall at a frequency considered commensurate with the potential for outfall damage. In Simpson's case they will be required to evaluate the structural integrity of the underwater portion of the discharge outfall at least once during the next permit cycle.